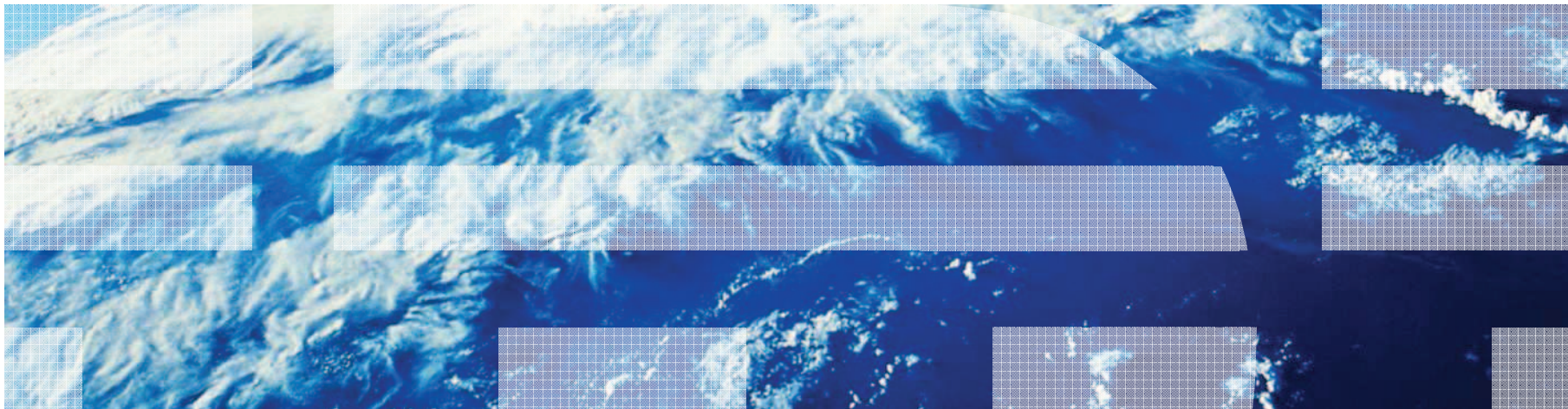L'association romande des utilisateurs de systèmes IBM

Enterprise X-Architecture 5th Generation Systems for a Smarter Planet

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Agenda

➔ Introduction / x86 Trends

➔ IBM's x86 fit-for-purpose strategy
   Value Proposition

➔ 5th Generation of X-Architecture

➔ Blade Value Proposition

➔ Conclusion : Build your dynamic
   infrastructure today with eX5

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Introduction

The x86 architecture is now 28 years old

x86 SERVERS

- Are **easy to acquire**

- Support a **broad application base**

We Love Them!

- Take advantage of **readily available** administration skills

BUT

- In distributed computing environments, **85 percent** of computing capacity sits idle1

We Hate Them!

- Power and cooling costs are now **eight times greater** than they were 12 years ago2

- Management costs now represent **70 percent** of IT budget[3]

1 Based on IBM estimates.
2,3 Clabby Analytics, *The Data Center 'Implosion Explosion' … and the Need to Move to a New Enterprise Data Center Model*, February 2008
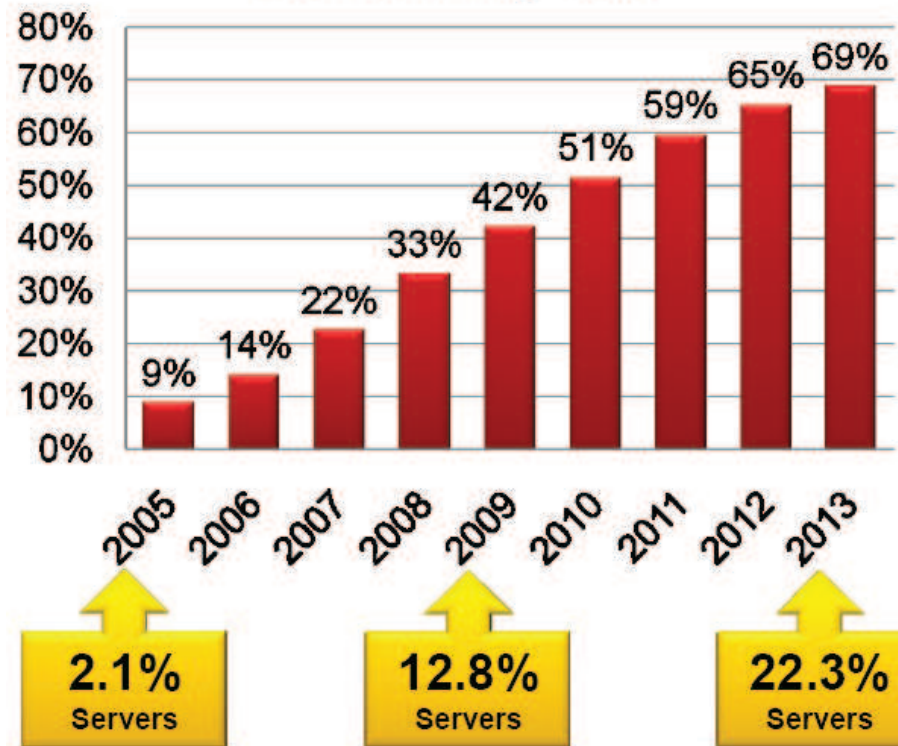
Virtualization is the Foundational Platform for the Datacenter

- IDC, March '10

- "Virtualization First" for 75% of customers

- More than half of all workloads (51%) will be virtualized by the end of 2010; two-thirds (69%) by 2013

- Only 12.8% of all physical servers where virtualized in 2009

- VM density continues to rise predictably, averaging 6 VMs per physical server in 2009 and 8.4 in 2013

WW Installed Workloads Virtualized by Year

Year	Percentage
2005	9%
2006	14%
2007	22%
2008	33%
2009	42%
2010	51%
2011	59%
2012	65%
2013	69%

2.1% Servers

12.8% Servers

22.3% Servers

**CIO strategic technologies reflect increased interest in 'lighter-weight' solutions.**

- Gartner 2010 CIO Study

CIO Technologies	Ranking of technologies CIOs selected as one of their top five priorities in 2010.			
Ranking	2010	2009	2008	2007
Virtualization	1 ⬆	3	3	5
Cloud Computing	2 ⬆	16	*	*
Web 2.0	3 ⬆	15	15	*
Networking, voice and data communications	4 ⬆	6	7	4
Business intelligence (BI)	5 ⬇	1	1	1
Mobile Technologies	6 ⬆	12	12	11
Data & Document Management and Storage	7 ⬆	10	9	9
Service-oriented applications and architecture	8 ⬆	9	10	7
Security technologies	9 ⬇	8	5	6
IT Management	10	*	*	*
Enterprise Applications	11 ⬇	2	2	2

* New Question

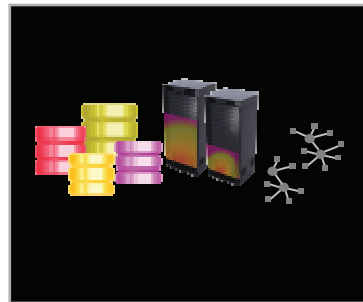# There are four stages of technology adoption for virtualized environments

Physical Consolidation
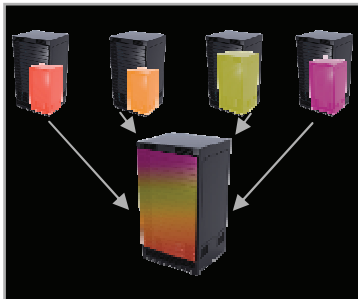
- Improve utilization
- Reduce costs
- Lower power usage

Improve capacity utilization by as much as 60%, while reducing the power and cooling costs

Advanced Virtual Resource Pools

- Decouple complexity from scale
- Share resources optimally
- Automate workload management
- Incorporate HA & DR

Hands-free operation, eliminate mundane tasks and manual processes and deploy workloads in minutes
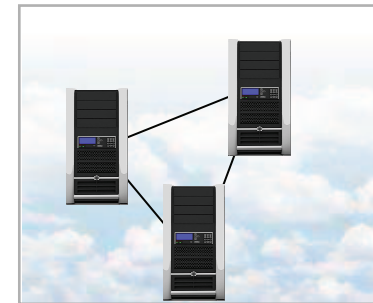
Fully virtualized IT with integrated Service Management

- Sense and respond to workload requirements
- Dynamically move workloads to best-fit infrastructures
- Integrated virtualization management with IT processes

Save time and reduce skill level required for workload provisioning through pre-packaged automation templates

Cloud

- Low cost through economies of scale
- Always on
- Globally available
- Elastic scaling
- Pay for use
- Self-service with rapid provisioning
- Service catalog

Give users the flexibility to request and pay for services they want without the complexities of establishing an IT infrastructure

We have a vision for x86 and IBM, with our resources and heritage of innovation is uniquely positioned to execute on the vision.

Old x86 Paradigm	New x86 Paradigm	Customer Value
Physical Server Thinking Workloads associated with specific server… even if virtualized	**Workload Thinking** Intelligent placement and movement of workload to available resources	Higher Availability Lower Energy Lower Cost
Independent Server, Storage and Networking Resources Different resource pools often managed by different organizations	**Single Pool of Resources** Server, Storage & Networking managed as single resource pool… physical & virtual server, storage & switching	Higher Utilization More Secure Lower TCO
Scaling at the Box Level Additional capacity comes by adding a new server or storage device	**Disaggregation of IT Resources** Independent Scaling of Server and Storage Subsystems… add only the amount of added resource required	Ease of Use Lower Cost
Integration of HW, Apps & Mgmt left to the User Different units bought for different purposes, specific applications, often special management tools	**Management of Workloads** Elimination of erector set… Workload deployed on scalable resource pool… single management view	Ease of Use Lower TCO More Secure

IBM is investing in **storage** with acquisitions strengthening our Server portfolio

IBM Storwize V7000: A New Era in Midrange Storage –
Outstanding new storage offering in both our GB Enterprise and Mid Market customer set providing new capacity and function that will allow your clients to save money, space and time

IBM's is investing in **networking** strengthens the integration of switches into IBM Systems

BLADE Network Technologies – *Proven and sustainable technology innovations from an experienced development team with strong synergies with the IBM Systems*

Although blades are clearly a strategic investment area for us, IBM continues to have a purpose-fit x86 platform philosophy.

X-Architecture™

Enterprise

iDataPlex

BladeCenter

Server consolidation, large virtualization and enterprise workloads

Massive scale-out HPC, cloud, grid, energy efficiency

Scale Up

Infrastructure integration and simplification, energy efficiency

Scale Out

Single, infrastructure applications

System x Rack and Tower

IBM Systems Director

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